

HABIT REVERSAL AS A TREATMENT FOR CHRONIC SKIN PICKING IN TYPICALLY DEVELOPING ADULT MALE SIBLINGS

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In this study, habit reversal was evaluated as a treatment for skin picking in typically developing adult male siblings using a nonconcurrent multiple baseline across participants design. Results showed socially valid decreases in reported picking as a result of treatment.

DESCRIPTORS: skin picking, dermatotillomania, stereotypic movement disorder, habits, treatment, habit reversal

Skin picking includes behaviors such as scratching, picking, gouging, and squeezing of the skin. Chronic skin picking occurs in up to 4% of college students, is more common in females, and may result in problems such as tissue damage, scarring, and skin infections (Wilhelm et al., 1999). Although a variety of procedures have been used to treat skin picking in persons with developmental disabilities (e.g., Lindberg, Iwata, Kahng, & DeLeon, 1999), there is a paucity of research evaluating interventions for skin picking in typically developing persons. One intervention with the potential to be an effective treatment for skin picking in typically developing adults is habit reversal, which has been used to treat a variety of repetitive behavior problems including cheek biting, oral-digital habits, and trichotillomania (Miltenberger, Fuqua, & Woods, 1998). The present article evaluates the effectiveness of habit reversal as a treatment for skin picking in typically developing adults.

METHOD

Participants

Participants (Stan, 20 years old; Drew, 22 years old) were typically developing Cauca-

sian male siblings who had engaged in skin picking since childhood. Skin picking was defined for both men as digging their fingernails into the tip of a digit and pulling or scraping the skin until the digit began to hurt or bleed. Both men reported damage to their fingers (e.g., bleeding, scarring, and infections).

Data Collection

Self-monitoring. Each participant carried a card (7.5 cm by 12.5 cm) throughout pre- and posttreatment and placed a checkmark on the card each time he engaged in skin picking. At the end of each day, the participant called the second author and reported the number of picks for that day. Four months after treatment ended, both men self-monitored for 2 additional days.

Photographs. Pretreatment, posttreatment, and 4-month follow-up photographs (see Figure 1) were taken 30 cm from each participant's left and right hands. Pretreatment photographs were taken on April 12 and April 17 for Stan and Drew, respectively.

Social validity. Ten psychology graduate students, blind to the participants' treatment condition, viewed the photographs in random order. For each photograph, the raters were asked to complete a three-item questionnaire that asked (a) how damaged the skin around the fingers appeared to be, (b)

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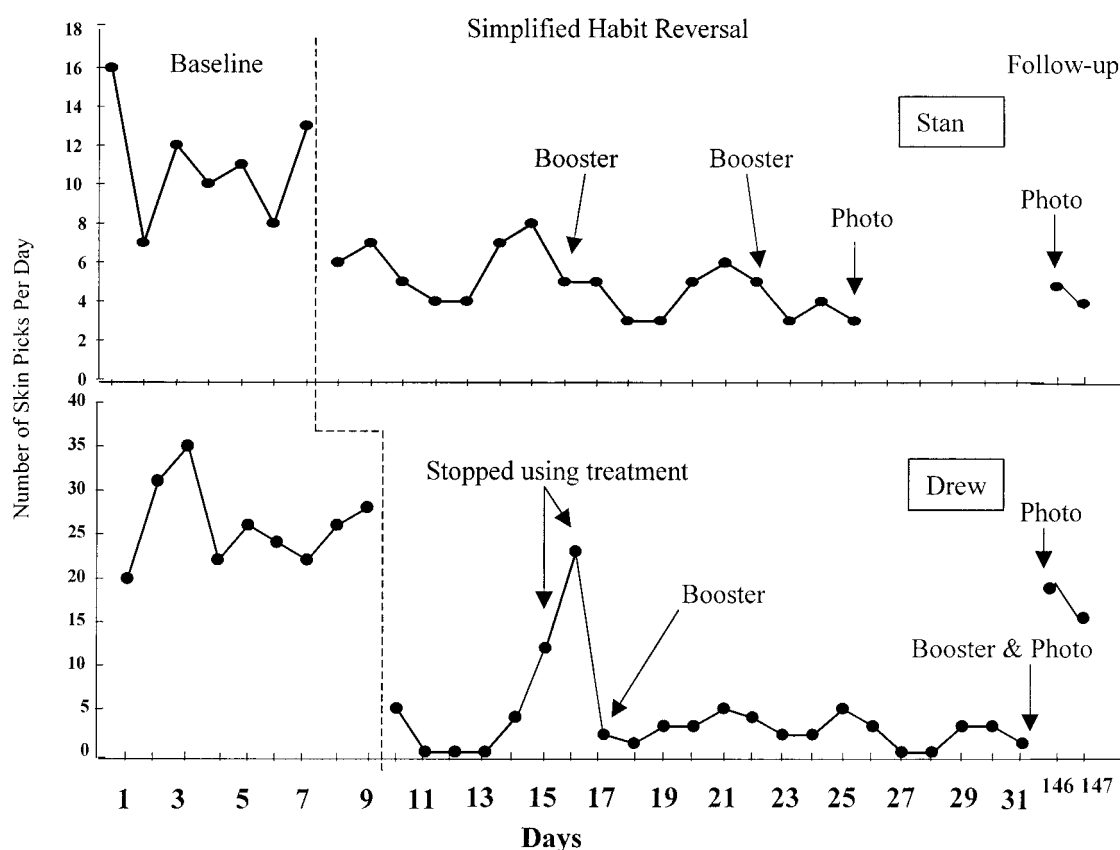


Figure 1. Number of self-recorded skin picks per day.

how much of a problem skin picking was likely to be for the person in the photograph, and (c) how much the person in the photograph was in need of treatment. Each item was rated on a 7-point Likert-type scale, with higher numbers reflecting less damage. Mean pretreatment, posttreatment, and follow-up scores for each question were calculated across both hands.

Self-Injury Trauma Scale (SITS). The SITS is a rating system used to describe the number, severity, and risk level associated with self-injurious behavior (Iwata, Pace, Kissel, Nau, & Farber, 1990). The Number Index (NI) yields a score from 0 to 5, with a score of 0 indicating no injuries and a score of 5 representing 17 or more injuries. The Severity Index (SI) yields scores from 0 to 5, with a score of 0 reflecting no injuries and a score

of 5 representing multiple, deep, or extensive breaks in the skin. Risk level is categorized as low, moderate, or high depending on injury location and severity. In this study, two observers rated the pretreatment, posttreatment, and follow-up photographs of both hands for both men independently for each of the three SITS. Across both hands for both men, 100% observer agreement was found for the NI and risk-severity scores, and 92% agreement was found for the SI score (range, 50% to 100%).

Procedure

A nonconcurrent multiple baseline across participants design was used to evaluate the intervention. Baseline self-monitoring occurred the week prior to the first treatment session. When a stable trend of self-reported

Table 1
Mean Social Validity Ratings and Ranges Across Participant Hands and Time

	Question 1			Question 2			Question 3		
	Pre	Post	Follow-up	Pre	Post	Follow-up	Pre	Post	Follow-up
Stan	3.3 (1–5)	6.1 (4.5–7)	6.2 (5.5–6.5)	3.5 (1–6)	6.4 (5–7)	6.2 (5.5–7)	3.8 (1–6.5)	6.0 (2–7)	6.1 (4–7)
Drew	3.0 (1–5)	6.6 (6–7)	4.2 (2.5–6.5)	3.1 (1–5.5)	6.7 (6–7)	4.3 (2.5–7)	3.5 (1–7)	6.7 (5.5–7)	4.6 (2.5–7)

picking became evident, the intervention was implemented.

The intervention consisted of simplified habit reversal (Miltenberger et al., 1998) implemented during an initial 1-hr session. This initial session was conducted on April 19 and April 26 for Stan and Drew, respectively. Two additional 0.5-hr sessions occurred twice during the 2 to 3 weeks following the initial treatment session, with at least 1 week between each session. The intervention consisted of awareness training and competing response training. Awareness training involved (a) describing the picking and its behavioral antecedents (e.g., rubbing and examining the fingers), (b) having the participant recognize clinician simulations of the picking and antecedent behaviors, and (c) having the participant acknowledge occurrences of his own picking or antecedents. Competing response training involved the participant making a closed fist for 1 min contingent on the picking or an antecedent behavior. The correct implementation of the competing response was demonstrated by the clinician, and the participant practiced the behavior contingent on simulated picking or antecedents until he consistently and correctly used the competing response. During booster sessions, the treatment protocol was reviewed, and the participants were praised for their efforts.

RESULTS AND DISCUSSION

Stan reported a mean of 11 incidences of skin picking per day during the baseline

phase (Figure 1); this number dropped to a mean of 4.9 per day after treatment began. Drew reported a mean of 26 picking episodes per day during baseline (Figure 1); this decreased to zero after treatment was implemented. Drew's picking increased ($M = 17.6$) during Days 16 and 17. When questioned about this, Drew reported that he had stopped using the procedures because he was unable to keep his picking at zero occurrences. A booster session was conducted, and Drew's picking dropped to a mean of 2.5. Follow-up self-monitoring demonstrated that Stan's improvements were maintained ($M = 4.5$), whereas Drew's picking had returned to higher levels ($M = 16.5$), although occurrences of the behavior were still below baseline levels.

The means and ranges for the three social validity questions are reported in Table 1. For all three social validity questions across both participants, pretreatment ratings were lower than posttreatment and follow-up ratings, indicating more notable damage in the pretreatment photographs. For both men, the follow-up ratings for all three questions were higher than pretreatment ratings. However, Drew's follow-up ratings were lower than his posttreatment ratings for all three questions, thus validating the increases in picking detected with self-monitoring.

The SITS data show that both men had an NI score of 1 during pretreatment and follow-up, indicating one to four injuries on either hand. Both men had no apparent injuries at posttreatment, which was reflected

by an NI score of 0. On the SI, both men scored a 2 at pretreatment, indicating distinct but superficial breaks in the skin. At posttreatment both men scored a 0, indicating no injury, and both men scored a 1 at follow-up, indicating red or irritated skin. The injuries in all photographs were rated as posing low risk.

In summary, this study suggests the potential effectiveness of habit reversal as a treatment for skin picking in typically developing adults and extends the effectiveness of habit reversal to another problem behavior. Despite these contributions, two design limitations should be noted. First, because participants reported that they were unlikely to pick around others, a direct measure of behavior was not obtained. Second, although both men reported implementing the procedure faithfully, no direct measure of treatment compliance was obtained.

The present study also suggests areas for future research. First, greater attention should be given to elucidate the behavioral processes that are responsible for the development and maintenance of skin picking in typically developing individuals. Research designed to isolate the function of skin picking could have a number of implications, including (a) the possible development of function-based treatment alternatives or adjuncts to habit reversal, (b) the creation of preventive interventions, and (c) the estab-

lishment of a possible method for predicting the success of habit reversal. For example, perhaps habit reversal is effective only for behavior maintained by nonsocial reinforcement, whereas the same procedure may be ineffective in reducing socially maintained skin picking. A second area of future research should seek to determine whether habit reversal is effective in treating persons with comorbid psychiatric conditions, because such conditions (e.g., major depression or obsessive-compulsive disorder) are common in persons who pick their skin and may negatively affect treatment outcome (Wilhelm et al., 1999).

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